



US 20180196514A1

(19) **United States**

(12) **Patent Application Publication**
ALLEC et al.

(10) **Pub. No.: US 2018/0196514 A1**

(43) **Pub. Date: Jul. 12, 2018**

(54) **MOTION AND GESTURE INPUT FROM A WEARABLE DEVICE**

G06K 9/62 (2006.01)

G06K 9/00 (2006.01)

G06F 3/03 (2006.01)

(71) Applicant: **Apple Inc.**, Cupertino, CA (US)

(52) **U.S. Cl.**

CPC **G06F 3/014** (2013.01); **G06K 9/2018**

(2013.01); **G06F 3/015** (2013.01); **G06F**

3/017 (2013.01); **G06F 3/0308** (2013.01);

G06K 9/00355 (2013.01); **G06K 9/6218**

(2013.01); **G06F 3/0304** (2013.01); **G06K**

9/00536 (2013.01); **G06K 9/6202** (2013.01)

(72) Inventors: **Nicholas Paul Joseph ALLEC**, Menlo Park, CA (US); **Xiaoyi MU**, Sunnyvale, CA (US)

(21) Appl. No.: **15/914,838**

(22) Filed: **Mar. 7, 2018**

Related U.S. Application Data

(63) Continuation of application No. 14/973,573, filed on Dec. 17, 2015, now Pat. No. 9,939,899.

(60) Provisional application No. 62/233,295, filed on Sep. 25, 2015.

Publication Classification

(51) **Int. Cl.**

G06F 3/01 (2006.01)

G06K 9/20 (2006.01)

(57)

ABSTRACT

This disclosure relates to detecting hand gesture input using an electronic device, such as a wearable device strapped to a wrist. The device can have multiple photodiodes, each sensing light at a different position on a surface of the device that faces skin of a user. Examples of the disclosure detect hand gestures by recognizing patterns in sensor data that are characteristic of each hand gesture, as the tissue expands and contracts and anatomical features in the tissue move during the gesture.

